UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
SR-6J

May 28, 2010

John Reggi, Director
Corporate Environmental Services
Ormet Primary Aluminum Corporation
P.O. Box 176, State Route 7
Hannibal, Ohio 43931

Re: Ormet Request for Interceptor Well Permanent Shutdown

Dear Mr. Reggi:

On July 8, 2009, Ormet Primary Aluminum Corporation (Ormet) submitted a request to the U.S. Environmental Protection Agency (U.S. EPA) for approval to cease operation of two interceptor wells, and their associated treatment system, which have been operating as part of the remedial action selected in a 1994 Record of Decision (ROD) to address soil and groundwater contamination at Ormet's aluminum reduction plant facility in Hannibal, Ohio. This remedial action was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (hereinafter CERCLA). U.S. EPA has reviewed your request and the supporting information provided. For the reasons stated below, U.S. EPA approves the discontinuation of the pumping of the interceptor wells.

U.S. EPA intends to issue an Explanation of Significant Differences (ESD) modifying the ROD to allow for the discontinuation of the pumping of the interceptor wells. The ESD will include a contingency for resuming pumping of the wells and treatment of the extracted water if monitoring data subsequent to the shutdown indicates that: 1) the discharge from the Ranney well to the Ohio River exceeds the effluent limits in Ormet's National Pollutant Discharge Elimination System (NPDES) permit addressing weak acid dissociable (WAD) cyanide, total cyanide, fluoride (or any other contaminant of concern in the plume emanating from the Superfund site); or 2) hydraulic containment of the groundwater plume emanating from the Superfund Site is not being maintained by pumping of the Ranney well alone.

Background: The 1994 ROD calls for treatment of residual soil contamination in the former spent potliner storage area (FSPSA) by in-situ soil flushing. The remedial investigation (RI) had determined that these soils were the primary source of fluoride and cyanide contamination in the underlying groundwater. Pursuant to the ROD, contaminants in these soils are being flushed to the groundwater and ultimately drawn into the Ranney well. The ROD requires continuous pumping of the Ranney well and the interceptor wells to maintain a hydraulic capture zone for the contaminated groundwater plume to prevent the contaminants from migrating in the

subsurface to the Ohio River or under neighboring property. Both the Ranney well and the interceptor wells were in use prior to the selection of the Superfund remedy. The Ranney well has always been used by Ormet to pump water for use as non-contact cooling water in its aluminum production process. It continues to be used for this purpose. The Ranney well is located near the southern boundary of the facility, abutting the Ohio River. Pumping of this large well draws in a significant amount of river water as well as ground water. The interceptor wells (only one is in use at a time) are located about 100 feet north of the Ranney well. Pumping of the interceptor well extracts a small portion of the contaminated groundwater plume (Ormet states it has always extracted less than 10% of the volume of groundwater entering the Ranney well); it was originally installed to remove chemicals in the groundwater that were entering the Ranney well and impacting the quality of its use for non-contact cooling water). The water drawn from the interceptor wells was required by the Ohio Environmental Protection Agency (Ohio EPA) to be treated to meet technology-based discharge limits for cyanide prior to discharge to the River. The water pumped from the Ranney well has never required treatment to meet water-quality based discharge criteria for cyanide, fluoride and other chemicals and has always been permitted to be discharged, untreated, to the Ohio River. The ROD requires continuous operation of the Ranney well and interceptor wells until the underlying groundwater is restored to Safe Drinking Water Act Maximum Contaminant Levels (MCLs), i.e. drinking water quality, because the aquifer is a possible source of drinking water.

Basis for Decision to Allow Shutdown of the Interceptor Wells: In support of its shutdown request, Ormet submitted monitoring data and analyses to demonstrate that if the interceptor well is shut down, and if all cyanide and fluoride previously extracted by the interceptor well enter the Ranney well, the untreated Ranney well water will still meet the water quality-based discharge limits for WAD cyanide, and the treatment plant effluent limits for fluoride and total cyanide established in Ormet's NPDES permit. Ormet also asserted that pumping of the Ranney well alone will maintain hydraulic containment of the plume in the alluvial aquifer and draw all of the contaminated groundwater (including the contaminants added to the groundwater from the soil flushing) into the Ranney Well. Ormet also stated that extraction of the small amount of groundwater accomplished by the interceptor well will have no significant effect on the groundwater remediation timeframe; the groundwater contamination concentrations will decrease to MCLs after soil flushing removes the source of the contamination in the soils. Ormet notes that pumping of the Ranney well will "maintain the groundwater flow conditions under which data have been collected for the past ten years to evaluate the effects of soil flushing and other remedial actions, allowing continued, uninterrupted monitoring of the selected remedy."

U.S. EPA geologist Dr. Luanne Vanderpool reviewed Ormet's shutdown request and supporting information and analyses. She agreed with Ormet's conclusion that the likely concentration of the Ranney well effluent in the absence of interceptor well pumping would be well below the daily and/or monthly limits for fluoride, WAD-cyanide, and total cyanide. The concentrations of fluoride and cyanide in the Ranney well are much lower than concentrations of samples from the interceptor wells, likely due to the substantial recharge to the aquifer from the Ohio River and the fact that the Ranney well capture zone includes Ohio River water as well as groundwater. Additionally, interceptor well monitoring data shows that concentrations of cyanide and fluoride in the groundwater reaching the interceptor wells have decreased since the inception of the remedial action in 1998.

Ormet's July 2009 submittal did not provide any data or analysis supporting the assertion that hydraulic containment within the alluvial aquifer would continue to be maintained, and all cyanide and fluoride previously captured by the combined pumping of the Ranney and interceptor wells would be captured by the Ranney well alone. In response to U.S. EPA's request for such information, Ormet submitted a letter dated January 25, 2010 with data on groundwater flows for the interceptor well and Ranney well for groundwater contour maps from 2003 to 2008. Ormet argues that the groundwater contour maps and pumping data indicate that a flow rate of 0.897 mgd (623 gpm) to 1.414 mgd (982 gpm) has been sufficient to maintain hydraulic containment within the aquifer. The two Ranney well pumps (each rated at 1500 gpm) thus have sufficient pumping capacity to maintain hydraulic containment without operation of the interceptor well. Dr. Vanderpool reviewed water level maps from the last ten years of annual monitoring reports for the site; they all consistently show a substantial cone of depression associated with the pumping of the Ranney and interceptor wells. Dr. Vanderpool qualitatively evaluated the associated capture zone and agrees that they show that the combined pumping of the Ranney and interceptor wells is maintaining hydraulic capture of the cyanide and fluoride mass. She also reviewed six years of discharge rates of the wells, confirming the minimal amount of discharge from the interceptor well(s) compared to the Ranney well. Dr. Vanderpool agrees with Ormet's conclusion that use of the interceptor wells is not necessary to maintain hydraulic capture, as long as the total discharge from the Ranney well is sufficient, i.e., pumping of the Ranney well must be maintained at a high enough rate to assure hydraulic capture is maintained. The ESD will specify a minimum pumping rate for the Ranney well which must be maintained to assure hydraulic capture, independent of the production needs of the aluminum reduction plant. Based on the historical flow data that rate will probably be in the neighborhood of 1 mgd.

U.S. EPA also accepts Ormet's assertion that discontinuation of the interceptor well pumping will not significantly impact the groundwater remediation timeframe. The extraction and treatment of the small volume of contaminated water achieved by the interceptor well does not significantly contribute to cleanup of the aquifer. Under the ROD remedy, soil flushing must first reduce the concentrations of contaminants in the soils to levels where they no longer significantly contribute to groundwater contamination. Dr. Vanderpool found no evidence that pumping of the existing interceptor wells (at least at the rates they have been pumped) has increased (or would increase) the rate of flushing of the aquifer over that which can be achieved by the Ranney well alone. Thus the length of time needed to achieve cleanup of the aquifer is not significantly affected by operation of the interceptor wells.

Relationship of U.S. EPA's approval of interceptor well shutdown to Consent Decree financial assurance requirements: The 2009 amendment to the Consent Decree (CD) imposed new financial assurance requirements on Ormet. The consent decree amendment set a deadline of December 21, 2009 for Ormet to fully fund the financial assurance at $3.4 million. This amount represented the present value of the estimated $300,000 annual cost of operation and maintenance of the remedial action, including operation of the interceptor wells and the associated treatment system, for twenty years. Ormet currently has in place a letter of credit for financial assurance in the amount of $1.5 million. A significant portion of the cost of annual operation and maintenance of the remedial action is attributable to the operation and

maintenance of the interceptor well treatment system. Ormet has stated, and U.S. EPA has acknowledged, that if U.S. EPA were to approve Ormet's request to discontinue operation of the interceptor wells and treatment system, that would be an appropriate basis under the CD for Ormet to request approval of a reduction in the financial assurance amount required, commensurate with a showing of the resulting lower estimated total cost of operation and maintenance. During the period that Ormet's interceptor well shutdown request was under review, from July 2009 to the present, U.S. EPA has twice granted temporary extensions to the December 21, 2009 CD deadline to increase the current financial assurance amount to $3.4 million. The current deadline extension expires May 31, 2010. U.S. EPA expects to issue the ESD to the ROD allowing for discontinuation of pumping of the interceptor wells by October 31, 2010. U.S. EPA invites Ormet to submit a revised cost estimate (pursuant to Paragraph 29 of the CD amendment) which takes into consideration that operation of the interceptor wells and treatment system will be discontinued, but shall be maintained in case the contingency is triggered requiring the wells and treatment system to be re-started. The revised cost estimate should also take into consideration that a higher sustained pumping rate for the Ranney well might be required.

Extension of CD deadline for Increasing Financial Assurance to $3.4 Million: In light of U.S. EPA's decision to approve shutdown of the interceptor wells and treatment system, U.S. EPA hereby extends the CD deadline for increasing the financial assurance to $3.4 million to July 30, 2010, to allow Ormet the opportunity to submit a revised cost estimate and request for reduction of financial assurance pursuant to Paragraph 29 of the CD amendment. If Ormet submits an adequately supported revised cost estimate by July 30, 2010, a further extension of said deadline shall be granted until December 31, 2010.

Sincerely,

Bernard J. Schorle

Bernard Schorle
Regional Project Manager

cc: Charles S. Warren (Kramer Levin Naftalis & Frankel LLP)
Michael D. Sherron (Ohio Environmental Protection Agency)
Christine McCulloch (DOJ)
Deborah Garber (ORC)